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L4: Entry 2 of 13 File: USPT Feb 22, 2000

DOCUMENT-IDENTIFIER: US 6027880 A
TITLE: Arrays of nucleic acid probes and methods of using the same for detecting cystic fibrosis

BSPR:
In an eleventh embodiment, the invention provides methods of comparing a target sequence with a reference sequence comprising a predetermined sequence of nucleotides using any of the arrays described above. The methods comprise hybridizing the target nucleic acid to an array and determining which probes, relative to one another, in the array bind specifically to the target nucleic acid. The relative specific binding of the probes indicates whether the target sequence is the same or different from the reference sequence. In some such methods, the target sequence has a substituted nucleotide relative to the reference sequence in at least one undetermined position, and the relative specific binding of the probes indicates the location of the position and the nucleotide occupying the position in the target sequence. In some methods, a second target nucleic acid is also hybridized to the array. The relative specific binding of the probes then indicates both whether the target sequence is the same or different from the reference sequence, and whether the second target sequence is the same or different from the reference sequence. In some methods, when the array comprises two groups of probes tiled for first and second reference sequences, respectively, the relative specific binding of probes in the first group indicates whether the target sequence is the same or different from the first reference sequence. The relative specific binding of probes in the second group indicates whether the target sequence is the same or different from the second reference sequence. Such methods are particularly useful for analyzing heterologous alleles of a gene. Some methods entail hybridizing both a reference sequence and a target sequence to any of the arrays of probes described above. Comparison of the relative specific binding of the probes to the reference and target sequences indicates whether the target sequence is the same or different from the reference sequence.

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L4: Entry 9 of 13 File: USPT Jan 19, 1999

DOCUMENT-IDENTIFIER: US 5861242 A
TITLE: Array of nucleic acid probes on biological chips for diagnosis of HIV and methods of using the same

BSPR:
In another aspect, the invention provides methods for comparing a target nucleic acid from a human immunodeficiency virus with a reference sequence from a second human immunodeficiency virus having a predetermined sequence of nucleotides. The target nucleic acid is hybridized to an array of oligonucleotide probes as described above. The relative specific binding of the probes in the array to the target is determined to indicate whether the target sequence is the same or different from the reference sequence.